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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,929	12/26/2000	Koon H. Teo	91436-305	2739

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EXAMINER

WANG, TED M

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 04/21/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/746,929

Applicant(s)

TEO ET AL.

Examiner

Ted M Wang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4-8-2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 15, and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6, 15, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 7-11, and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-6, 15, and 18-20, or 7-11, and 18-20, or 12-14, 16, 17, 19, and 20 are pending in the application.

Specification

2. The disclosure is objected to because of the following informalities:
3. Page 8 line 18, "09/996,133" should be changed to "08/996,133", and
4. Page 13 line 4, ")" should be deleted.

Appropriate correction is required.

Response to Election Requirement

5. The response to Election Requirement filed on 4-8-2004 has been entered.
Species 1 (claims 1-11, 15, and 18-20) has been elected.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 5, 6, 15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehman et al. (US6,282,184) in view of Wang et al. (US2002/0054623).

- In regard claim 1, Lehman et al. discloses a base station transceiver with common digitizing rate for multiple air interface for generic cell sites in cellular radio that receiver for processing a superposed RF (radio frequency) signal containing two or more RF signals occupying overlapping RF bandwidth (column 2 line 60 – column 4 line 16, Fig.2, and column 6 lines 33-47), the wireless communication receiver comprising:
 - a wideband receiver for receiving said superposed RF signal (Fig.2 and 3 element 40);
 - an analog to digital converter (Fig.2 and 3 element 41) for converting said received superposed RF signal to a superposed digital signal using a common digitizing rate (Fig.2 and 3 element 106, and column 11 lines 11-49);
 - a channelizer for each of said RF signals that receives said superposed digital signal and limits said superposed digital signal to a bandwidth that corresponds with the bandwidth of each of said RF signals, providing a bandwidth clipped digital signal for each of said RF signals (Fig.2 elements 7-9, Fig.6 element 7, Fig.7 element 8, Fig.8 element 9); and
 - a signal handling device for each of said RF signals that receives one said bandwidth clipped digital signal, said signal handling device comprising: a rate adjuster that adjusts a sampling rate of said decoded digital signal to provide an

output signal having a predetermined sampling rate (column 14 line 62 – column 15 line 39, and column 16 lines 22-55).

Lehman et al. fails to teach a multi-user detection decoder that shares data with other multi-user detection decoders.

Wang et al. teaches that a multi-user detection decoder that shares data with other multi-user detection decoders (Fig.2 element 30, page 1 paragraph 9 lines 1-14, and page 2 paragraph 25 lines 1-8) in order to enhance the specific user's signal and reduce or cancel interference due to the other users' signals.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lehman's transceiver in view of Wang's teaching in order to enhance the specific user's signal and reduce or cancel interference due to the other users' signals.

- In regard claim 2, the limitation that each said channelizer includes a rate adjuster that adjusts a sampling rate of said superposed digital signal to an adjusted common digitizing rate, wherein said adjusted common digitizing rate is a reduced multiple of each said predetermined sampling rate can further be taught by Lehman et al. in Fig.2 elements 7-9, Fig.6 element 7, Fig.7 element 8, Fig.8 element 9.
- In regard claim 5, the limitation that said common digitizing rate is determined such that said receiver can process a superposed RF signal containing RF signals associated with two or more air interface standards can further be taught

by Lehman et al. in Fig.2 element 106 and Fig.5, and column 9 line 25 – column 10 line 37.

- In regard claim 6, the limitation that said two or more RF signals comprise voice and data signals can further be taught by Lehman et al. in column 8 lines 11-18.
- In regard claim 15, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 18, which is a claim of computer readable medium containing computer executable code for adapting a wireless communication receiver for processing a superposed RF (radio frequency) signal related to claim 1, all limitation is contained in claim 1 and in Lehman et al. column 1 line 59 – column 2 line 12. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 19, which is a signal handling device claim, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.

Allowable Subject Matter

8. Claims 3, 4, 7-11, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Reference Jian et al. "An efficient IF architecture for dual-mode GSM/W-CDMA receiver of a software radio"; Mobile Multimedia Communications, 1999 (MoMuC '99) 1999 IEEE International Workshop on, 15-17 Nov. 1999, Pages: 21 – 24, US5,592,480, and US6,587,448 are cited because they are put pertinent to the Reconfigurable wireless system base station and software radio. However, none of references teach detailed connection as recited in claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (703) 305-0373. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M Wang
Examiner
Art Unit 2634

Ted M. Wang


STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600